

WHAT IS CLAIMED IS:

1. A solid oxide fuel cell having an electrolyte electrode assembly in which a fuel electrode is connected to one face of a first solid electrolyte showing oxide ion conductivity and in which an air electrode is connected to the other face, wherein the fuel electrode comprises a cermet of a catalyst and of a second solid electrolyte whose oxide ion conductivity is more than 0.2 S/cm at 1000 °C.

2. The solid oxide fuel cell according to claim 1, wherein the second solid electrolyte is scandia-stabilized zirconia containing 9 to 12 mol% of scandia ( $\text{Sc}_2\text{O}_3$ ).

3. The solid oxide fuel cell according to claim 2, wherein the second solid electrolyte is further scandia-stabilized zirconia containing less than or equal to 2 mol% of yttria ( $\text{Y}_2\text{O}_3$ ).

4. The solid oxide fuel cell according to claim 2, wherein the second solid electrolyte is further scandia-stabilized zirconia containing less than or equal to 2 mol% of ceria ( $\text{CeO}_2$ ).

5. The solid oxide fuel cell according to claim 2, wherein the second solid electrolyte is further a composite material of the scandia-stabilized zirconia and less than or equal to 2 wt% of alumina ( $\text{Al}_2\text{O}_3$ ).